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#4835

## PHD-2/Egln1 (D31E11) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 50	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q9GZT9	<b>Entrez-Gene Id:</b> 54583
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:50

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

PHD-2/Egln1 (D31E11) Rabbit mAb detects endogenous levels of total PHD-2/Egln1 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val226 of human PHD-2/Egln1 protein.

### Background

PHD1 (Egln2), PHD-2 (Egln1), and PHD3 (Egln3) are members of the Egln family of proline hydroxylases. They function as oxygen sensors that catalyze the hydroxylation of HIF on prolines 564 and 402, initiating the first step of HIF degradation through the VHL/ubiquitin pathway (1,2). PHD1 is highly expressed in a wide array of tissues whereas PHD2 and PHD3 are expressed mainly in heart and skeletal muscle (1,3). The mRNA levels of PHD are upregulated by HIF through the hypoxia-response element under low oxygen conditions (4-7). These three enzymes also exhibit different peptide specificity target proteins, PHD1 and PHD2 can hydroxylate both proline 402 and proline 564, but PHD3 can only hydroxylate proline 564 (2,8). In addition to HIF, PHD enzymes have also been shown to catalyze the hydroxylation of RNA polymerase subunits and myogenin (3,9).

### Background References

- Freeman, R.S. et al. (2003) *Mol Cells* 16, 1-12.
- Villar, D. et al. (2007) *Biochem J* 408, 231-40.
- Fu, J. et al. (2007) *J Biol Chem* 282, 12410-8.
- D'Angelo, G. et al. (2003) *J Biol Chem* 278, 38183-7.
- del Peso, L. et al. (2003) *J Biol Chem* 278, 48690-5.
- Pescador, N. et al. (2005) *Biochem J* 390, 189-97.
- Metzen, E. et al. (2005) *Biochem J* 387, 711-7.
- Hirsilä, M. et al. (2003) *J Biol Chem* 278, 30772-80.
- Mikhaylova, O. et al. (2008) *Mol Cell Biol* 28, 2701-17.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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